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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,949	06/27/2003	Howard Levy	004-8850	3054
22120	7590	08/26/2004	EXAMINER TAN, VIBOL	
ZAGORIN O'BRIEN & GRAHAM, L.L.P. 7600B N. CAPITAL OF TEXAS HWY. SUITE 350 AUSTIN, TX 78731			ART UNIT 2819	PAPER NUMBER

DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/607,949

Applicant(s)

LEVY ET AL.

Examiner

Vibol Tan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/17/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show a weak keeper device as described in the specification. There is no indication of transistor 420 being a weak transistor in Fig. 4.
2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the weak keeper device or weak transistor must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.
3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the node is precharge low & the evaluation circuit is p-logic must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.
4. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief

description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 9,16-18, 25, and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. The term "weak keeper device" in claims 9,18, and 26 is a relative term, which renders the claim indefinite. The term "weak keeper device" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

8. The term "a fastest signal" and "a slowest signal" in claims 16 and 17, respectively, is a relative term, which render the claims indefinite. The term "fastest signal or slowest signal" is not defined by the claim, the specification does not provide a

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standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

9. The term "strong keeper device" in claim 25 is a relative term which renders the claim indefinite. The term "strong keeper device" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 1-11, 13-15, 18-20, and 23-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Kumar et al. (U. S. PAT. 6,707,318).

In claim 1, Kumar et al. teaches all claimed features in Fig. 3, a keeper circuit for a dynamic node (308) of a circuit, wherein the effective strength of the keeper circuit (309, 311, 314) operating on the dynamic node is reduced during an interval (half of a cycle) in which at least one path in an evaluation circuit (318) is sensitive to a keeper device (314).

In claims 2-4, Kumar et al. further teaches the circuit of claim 1, wherein the sensitivity of the at least one path includes output of an incorrect value of the evaluation circuit output (noise); wherein a response to the sensitivity is otherwise a reduced speed of the evaluation circuit output (slowing down the speed of the circuit); and wherein the operation of the keeper circuit on the dynamic node is effectively disable during the interval (when 301 is high).

In claim 5, Kumar et al. teaches all claimed features in Fig. 3, a circuit comprising: a dynamic node (308); an evaluation circuit (318) coupled to the dynamic node (via 320); and a keeper circuit (309, 311, 314) coupled to the dynamic node, wherein the effective strength of the keeper circuit operating on the dynamic node is reduced during an interval (half of a cycle) in which at least one path in the evaluation circuit is sensitive to a first keeper device (314).

In claims 6 and 7, Kumar et al. further teaches the circuit of claim 5, wherein the keeper circuit latches an output (304) of the circuit; and wherein the keeper circuit includes the first keeper device (314).

In claim 8, Kumar et al. further teaches the circuit of claim 7, wherein the keeper circuit includes a keeper gating device (311) coupled the keeper device.

In claim 9, Kumar et al. further teaches the circuit of claim 5, wherein the keeper circuit includes a weak keeper device (col. 3, lines 20-30).

In claims 10 and 11, Kumar et al. further teaches the circuit of claim 5, wherein the keeper circuit is responsive to a keeper control (301); and wherein the keeper control is clocked (Φ).

In claims 13 and 14, Kumar et al. further teaches the circuit of claim 5 further comprising a precharge device (306); wherein the precharge device and the evaluation circuit operates during different phases of a control signal (Φ).

In claim 15, Kumar et al. further teaches the circuit of claim 5, wherein the first keeper device is sized to sufficiently overcome (col. 3, lines 20-30) the leakage current in the evaluation circuit (318).

In claim 18, Kumar et al. further teaches the circuit of claim 9, wherein the keeper circuit device is minimally sized (col. 3, lines 20-30) to sufficiently overcome noise while the first keeper device is effectively disabled (when Φ is high).

In claim 19, Kumar et al. further teaches the circuit of claim 5, wherein the dynamic node (308) is precharged high (V_{cc}).

In claim 20, Kumar et al. further teaches the circuit of claim 19, wherein the evaluation circuit (318) is n-logic (NMOS PULL-DOWN NETWORK).

Method claim 23 corresponds to detailed circuitry already discussed similarly regard to apparatus claim 5.

Method claim 24 corresponds to detailed circuitry already discussed similarly regard to apparatus claim 4.

Method claims 25 and 26 correspond to detailed circuitry already discussed similarly regard to apparatus claim 1.

Claim 27 corresponds to detailed circuitry already discussed similarly regard to apparatus claim 5.

Claim 28 corresponds to detailed circuitry already discussed similarly regard to apparatus claim 4.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 12, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar et al. in view of Sprague et al. (U. S. PAT. 6,542,006).

In claim 12, Kumar et al. teaches all claimed features of claim 10, with the exception of teaching wherein the keeper control is self-timed. However, Sprague et al. teaches in Fig. 1, a self-timed circuit (115) operates to reset a dynamic node.

Therefore; it would have been obvious to one ordinary skill in the art at the time of the invention was made to select a self-timed circuit to control the keeper circuit in order to reset the dynamic node.

In claims 21 and 22, Kumar et al. teaches all claimed features of claim 5, with the exception of teaching wherein the dynamic node is precharge low and the evaluation circuit is p-logic. However, Sprague et al. teaches in Fig. 5, the dynamic node (a node below P-TYPE DOMINO LOGIC is precharge low (when a precharge transistor, not marked, is closed, the node is pulled down low).

Therefore; it would have been obvious to one ordinary skill in the art at the time of the invention was made to choose the low precharge (P-type logic) in order to provide a P-Type version of the evaluation circuit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vibol Tan whose telephone number is (571) 272-1811. The examiner can normally be reached on Monday-Friday (7:00 AM-4:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike J. Tokar can be reached on (571) 272-1812. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



VIBOL TAN
PRIMARY EXAMINER